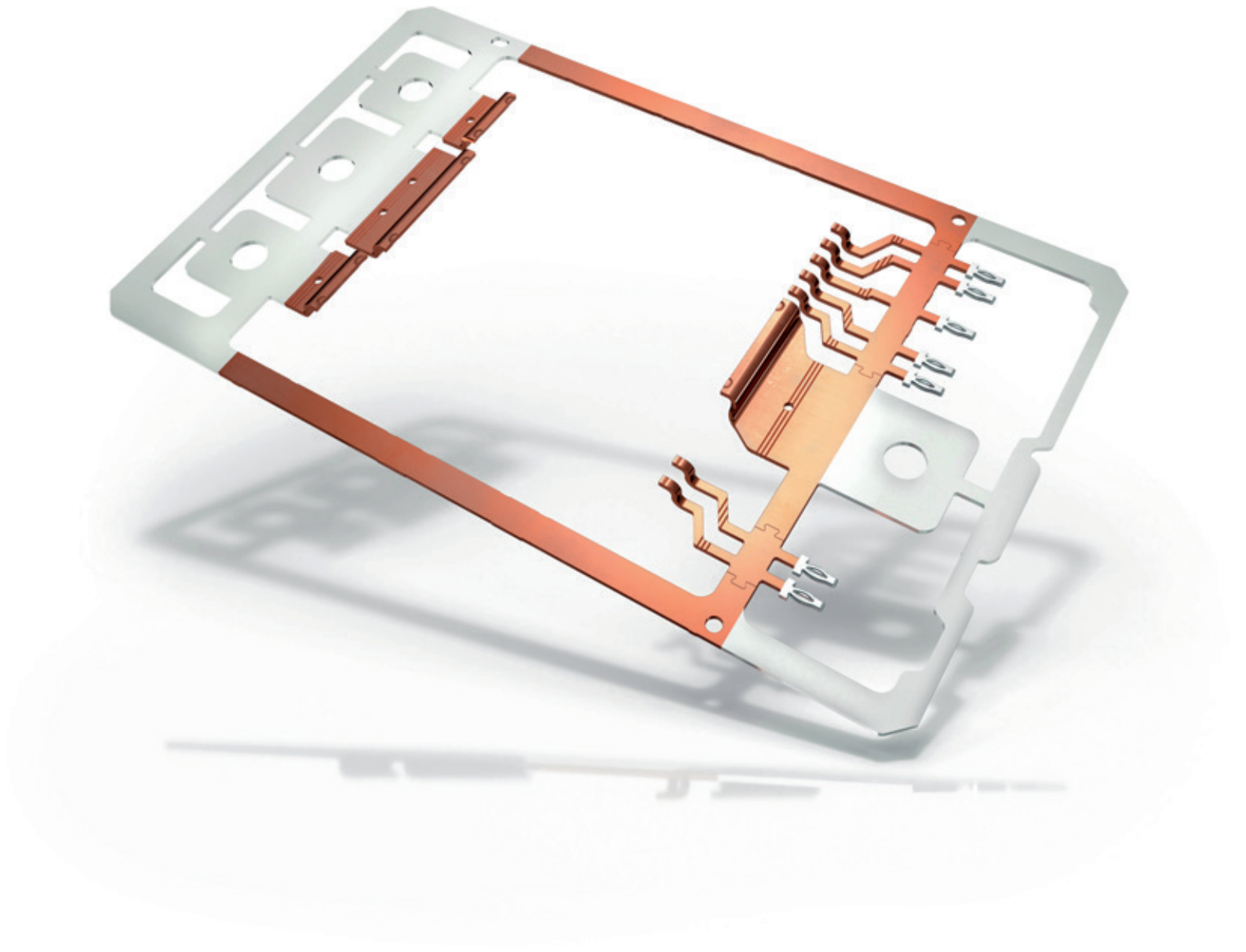
BRUDERER

PRECISION – SWISS MADE

STAMPER

The magazine for high-performance stamping technology / 2022



KLEINER

A family business with a brand and a personality to match.

STAMPING PRACTICE

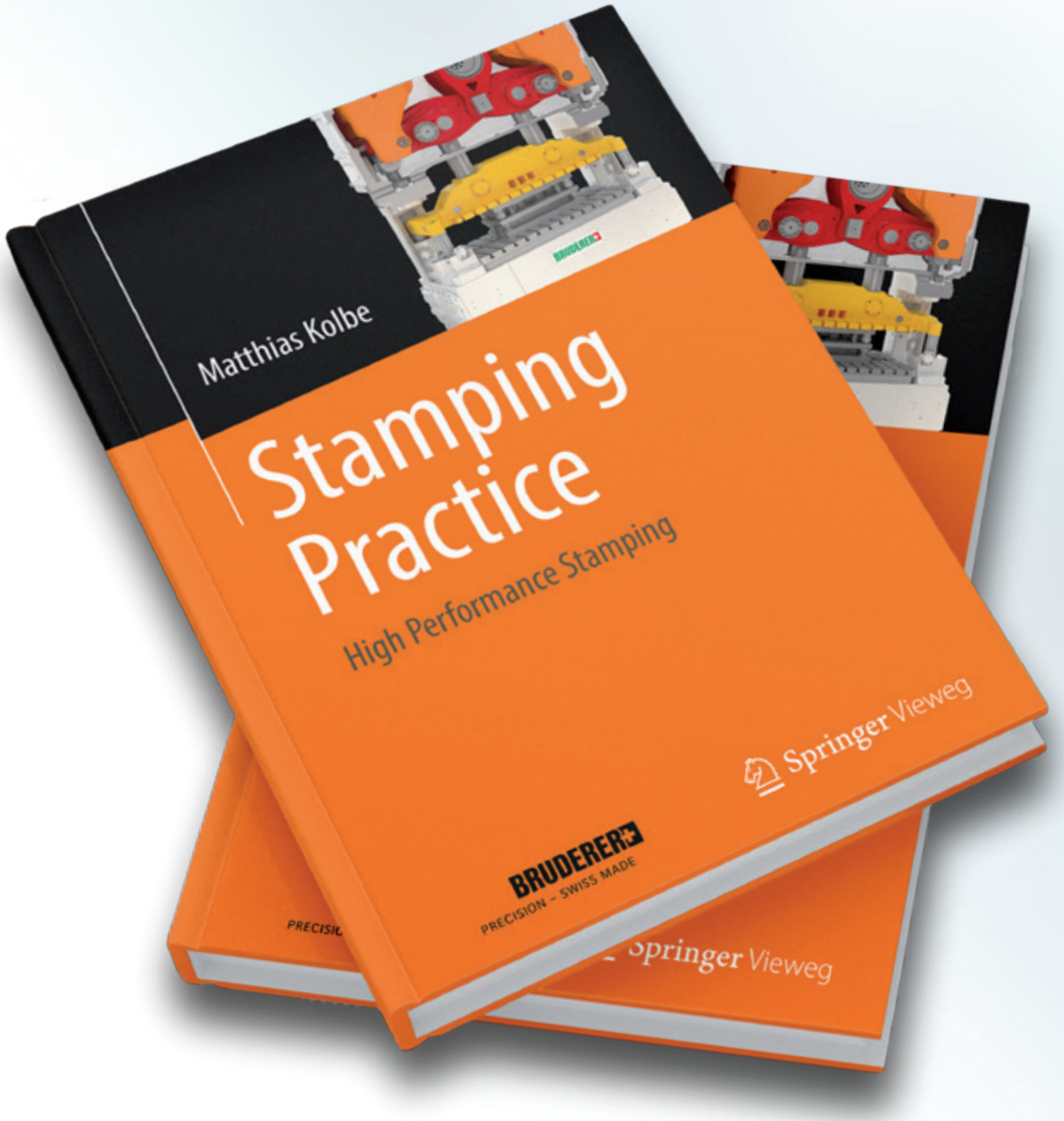
Matthias Kolbe's new reference book.

HOFMANN

A day in the life of a BRUDERER employee.

BRUDERER
PRECISION – SWISS MADE

BRUDERER stamping technology – read all about it!



Stamping Practice: the book of high-performance stamping, by Prof. Matthias Kolbe.
Sign up for our newsletter. The first few subscribers will be sent a free copy of the book.

Subscribe to the newsletter and write 'Stamping Practice' into the 'interests' field.

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People make the difference

In these challenging times, business-owners, CEOs and employees face particular demands. As such, in this latest edition of Stamper, we have decided to introduce you to some of our special customers, and the people behind them.

A heavyweight of the stamping industry is family-run company KLEINER GmbH, with their head office in Pforzheim. Owner Thomas Kleiner is at the helm of the firm, alongside his wife and their three sons. Precision and the utmost in quality is their hallmark, using the latest in technology – including BRUDERER machines – to achieve high levels of automation.

We also visited stamping company and tool manufacturer QUITTENBAUM in Schönau am Königssee. QUITTENBAUM GmbH is a perfect example of how clever members of management saw the advantages of investing early in the digitalisation of production processes. This includes BRUDERER high-performance stamping presses, which fit right into this concept with their digital connections.

Another example of achieving success through high levels of commitment comes from LISOVNA AD s.r.o., a company based in the east of the Czech Republic. As a producer of stator stacks for servo drives, LISOVNA has made a name for itself beyond its country's borders and become a sought-after specialist partner for the production of prototypes and very small batches.

This edition of Stamper also includes articles about the importance of the human side of resources. Thomas Hofmann for example gives us a personal insight into the world of stamping technology. He is a genuine BRUDERER expert, having been our salesman for Switzerland, the Vorarlberg area of Austria and Liechtenstein for over 20 years. He talks about the particularities of the Swiss stamping market and the challenges it poses.

Roland Ackermann, Vice President Sales & Marketing, Member of the Executive Board.

Dušan Volejník, CEO and owner of KONTURA TOOLS s.r.o., has been working with us for almost as long. This year, his company is celebrating its 20th anniversary as a BRUDERER representative in the Czech Republic and Slovakia – a success story both for them and for us.

Today's apprentices are tomorrow's pillars of the company. Roman Stocker, our head of training, outlines the possibilities and opportunities that young people starting out on their careers can find when doing their apprenticeship with BRUDERER.

I hope that you will enjoy reading the various articles, and look forward to seeing and hearing from many of you personally.

Kind regards,
Roland Ackermann

THE MAN FOR THE SPECIAL TASKS.

Thomas Hofmann is the person we have come to rely on for the sale of BRUDERER stamping presses in Switzerland and the Vorarlberg area of Austria. We caught up with Thomas, who told us more about his hobby of tree and forestry management, and of course gave us some exciting insights into the intricacies of his sales area.

As the chainsaw bites into the tree-trunk with a loud wail, Thomas Hofmann is in his element. The trained tool-maker turned BRUDERER expert for elaborate stamping lines spends almost every moment of his free time surrounded by wood. He moved from the Allgäu region of southern Germany to Switzerland in 1990 as a young tool-maker and soon came into contact with BRUDERER's high-performance stamping presses. While working for one of his previous employers, he acquired a BSTA 300. The products themselves, the company ethos and some persuasive words from the previous BRUDERER sales manager convinced him to change sides in 2002, and since then, he has been looking after customers in Switzerland and the Vorarlberg area.

A market with special circumstances

"Switzerland is a very particular market," says Thomas – and with over 40 years of tool-making experience and two decades as part of the BRUDERER family, he knows what he is talking about. "In some cases, we act as a general contractor for our customers, i.e. we source the system components, combine them with our BRUDERER stamping presses and get the system up and running with the customer's tools. The customer segments in Switzerland are also very diverse – they range from general industrial uses all the way through to specific applications such as cold formed parts for the watch industry, and ultra-fine components for weaving and sewing machines and the food industry."

Excellence in special machine construction

There are certain cases where Thomas and his customers have to head into uncharted territory in terms of technology. Times like these require not just comprehensive knowledge of tool manufacturing but also a deep understanding of machines and production responsibility. "The most important aspect of my job is to listen," Thomas explains. "First and foremost, you have to focus on taking on ideas and suggestions from the customer and weighing them up in terms of technical implementation. Integrating our BRUDERER high-performance stamping presses into complex production processes and planning with the corresponding interfaces is always an exciting challenge." This is clearly where his work goes beyond mere sales and distribution, but as he says:

"I love heading into uncharted technical territory with customers."

Let's go! Time to head off into the woods.

"I love tasks like that, and Switzerland is the ideal market for it. It's a country that's filled with experts who have no desire to compromise. You find them in the watch sector, telecommunications technology and plenty of other sectors besides.

Fine-tuning is the order of the day, with the chainsaw adapted to each job.

There are customers who are looking for a ram adjustment to a thousandth of a millimetre, who want fully automated strip-feeding or who carry out cold-forming on a micro-scale. These really are special requirements."

Taking his work home – or rather out into the forest

Knowledge of specialist high-performance stamping production methods also comes in handy for Thomas' leisure activities as an arborist, with all of the chain links on his saws made using BRUDERER stamping presses. "Every part of a chainsaw is made from high-tensile materials, namely steel. Chain plates, drive links and cutter teeth are stamped, and the stamping tools need to be stable enough for these parts. The cutting elements are made of powder metallurgical steel or carbide. It requires very precise clamping options. It means that we can get the absolute maximum out of every machine even under such extremely demanding conditions, and minimise the fluctuations to ensure the series quality and keep the wear and tear of the tool and the machine as low as possible."

"The Swiss market needs special solutions. I'm in my element here."

A man of many talents

It is not just customers with complex production and stamping processes who benefit from Thomas' commitment and willingness to lend a hand – those qualities can also be seen and felt outside of his professional environment. As well as his love of forests and trees, he is a passionate mountain biker, chicken keeper and traveller, always with his family alongside him. We are so lucky to have a committed employee like Thomas as part of the global BRUDERER family.

Not without my UNIMOG, for the sustainable management of the important forest habitat.


"All of my chainsaw's stamped parts are
made exclusively on BRUDERER machines."

NONE FINER THAN KLEINER.

A new approach to solutions.

KLEINER headquarters in Pforzheim.

If there is one company that truly embodies the idea of the family business, it is KLEINER GmbH in Pforzheim. Located at the heart of the stamping industry in southwestern Germany, KLEINER develops and manufactures high-performance tools, precision stamped parts and more besides, using BRUDERER high-performance precision stamping presses.

Thomas Kleiner laid the foundations for the business back in 1985 in Königsbach-Stein, just outside Pforzheim, and it has gone from strength to strength ever since. The company moved to Eisingen in 1998 in what is now factory II. Since 2008, the family business has had its headquarters on a 18,000 m² site in Pforzheim next to the Pforzheim West motorway exit. "This location is like a winning lottery ticket," says managing partner Thomas Kleiner. "It's an ideal connection for our customers, suppliers and of course our employees. You literally can't go past KLEINER without noticing us.»

Family business in the truest sense of the word

Thomas Kleiner runs the business with fellow managing director Joachim Hartrumpf, as well as Christian Hamann and Frank Chojinski who are each authorised signatories. The succession plan is very much in place, with Kleiner's three sons Rico, Daniel and David well established in the firm already. "All three have taken on different roles, based on their respective talents and preferences, and are settling in nicely." Rico, the eldest, trained as an industrial engineer, majoring in business management. After his studies, he worked as a consultant for a number of years for a reputed SAP business, and is now the driving force behind KLEINER's digitalisation. Rico has acquired comprehensive IT expertise during his master's studies by spending several semesters abroad, including in the USA, France and Sweden.

The two younger sons are twins. David trained to become a tool manufacturer and studied to the equivalent of master's level as an engineer and business economist – the ideal preparation for him to fit into KLEINER's production team. Daniel meanwhile earned an MBA in information systems from the University of Utah, having previously studied purchasing and logistics in Germany. Before the pandemic hit, he worked in sustainability and quality management for a US company.

"The most important thing for us though is that they can do what they want – they're not under any pressure to do anything. We've always made that clear to our sons," explain Jutta and Thomas Kleiner, who have formed a team both at work and at home.

Renowned and demanding customers

Thomas Kleiner is a man who does not mince his words. "We can't say that we're the best because there's no such thing as the best. We're also not the fastest, as we take care in our work. And

Thomas and Jutta Kleiner with their three sons Rico, Daniel and David.

KLEINER power-rail e-booster for the Porsche Taycan – the first car with an 800v operating voltage.

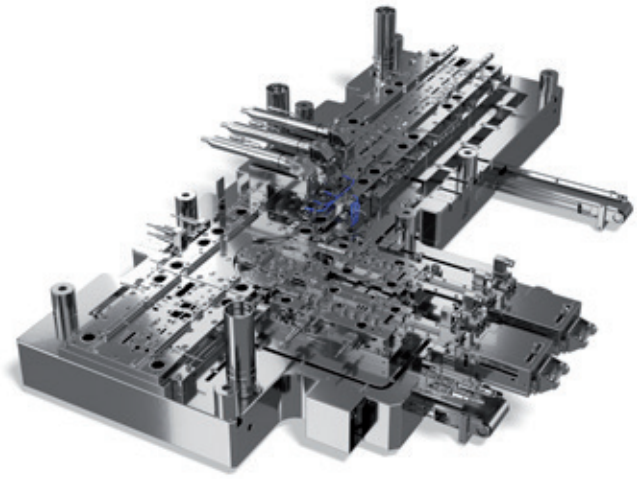
we're not the cheapest either, as quality comes at a price. We're different, and all we want to do is deliver the best!" That principle is one that is appreciated by their customers, who include plenty of leading businesses from the automotive industry, with KLEINER supplying high-precision products to companies right up to Tier 1. "Our products are now primarily used in e-vehicles," Thomas Kleiner explains, "which means that we're in a strong position for the future, despite rising oil prices." Other sectors who benefit from KLEINER's expertise include electronics, telecommunications and medical technology.

High levels of automation

KLEINER GmbH's core competency is stamping technology, with operations running almost around the clock in three shifts spread across Pforzheim and Eisingen. Around three billion pieces are manufactured each year with material thicknesses up to 5 mm, using machinery ranging as far as 250 tonnes of capacity, 3,000 mm of tool loading area and 1,500 strokes per minute. Much of this is carried out using BRUDERER high-performance precision stamping presses. KLEINER has no fewer than 39 of them in operation, with none more than ten years old. "Modern machinery that can be ideally adapted to the growing digitalisation and automation of our company is one of our strategic goals," Thomas continues. "The impressive re-sale value of BRUDERER high-performance stamping presses and high levels of demand support us in this approach."

A clear illustration of the significant levels of automation can be seen in KLEINER's own in-house manufacturing cell. It is a place where technologies from tool- and mould-making, measuring and industrial robotics are combined to enable the fully-automated manufacturing of tool components. KLEINER even develops and creates individual automation solutions for its customers, such as robot-steered assembly and parts extraction, from the planning stage right through to operations.

"Our products are primarily used in the e-mobility sector."



A high-performance stamped tool made to KLEINER levels of quality.

In the KLEINER manufacturing cell, a six-axis industrial robot steers production and carries out the assembly.

Solution-orientated thinking, in-house patents

The KLEINER tagline - "We think solutions" – is certainly no empty promise. The company's spirit of innovation and high levels of precision for contacts with press-fit zones has led to such revolutionary developments as punching grids fitted with Elopin (used under licence) and the in-house-designed KLEINER Flexopin. The latter sees two printed circuit boards combined with just one pin. Its flexible length means that it can be universally implemented, making it ideal for automated assembly. Many of these KLEINER developments have come to be recognised as industry-standard, and it comes as no surprise to learn that the company has a host of DIN certifications, underlining their high levels of quality. The firm is proud to boast certifications including DIN 9001 and IATF 16949 for quality management, ISO 45001 for occupational safety management, DIN EN ISO 50551 for energy management and DIN EN ISO 14001 for environmental management.

"Many KLEINER developments go significantly beyond the quality standards demanded by the market."

Even for the company's own vehicles, the focus is on e-mobility.

CO_2 -neutral production

Ecological and social aspects also play a key role in the company, and in this context, KLEINER has consistently chosen energy-efficient production methods that focus on the environment and the use of resources, to continue to reduce CO_2 emissions, avoid waste and work towards other energy savings. "If we're expecting people to switch to low-emissions vehicles, then we should also expect that the production of those vehicles be low-emission," Thomas Kleiner explains. "We cover over 50% of our requirements with energy that we produce ourselves via photovoltaics and a cogeneration system. The whole building

"We cover over 50% of our requirements with energy that we produce ourselves via photovoltaics and a cogeneration system."

In the KLEINER training workshop, the skilled labour of tomorrow currently receives training in seven different trades.

is equipped with under-floor heating which is fed by the waste heat from our machines. We have also set up an environmentally-friendly charging infrastructure for all e-vehicles in the company. We want to lead by example and show the way rather than just talking about it."

Top employer in the region

That also applies to the social responsibility that the family business takes on for its 280 or so employees and the people that live in the area. KLEINER is a leading employer and for decades now has been committed to supporting regional sporting and cultural associations, helping social projects and building up ties with local schools. There are currently around 30 apprentices working with KLEINER, and provided that they show similar levels of commitment to what the company is giving them, they are virtually guaranteed a job at the end of their training.

Thomas Kleiner can therefore look forward to a well-earned retirement in a few years' time, after 37 years of service. The company is heading in the right direction, with the whole family on board. Quality is still the watchword, and over the decades to come, KLEINER will still be able to proudly declare: we think solutions.

"KLEINER is a leading employer and for decades now has been committed to supporting regional sporting and cultural associations."

More below
www.kleiner-gmbh.de

PUSHING THE LIMITS OF WHAT IS POSSIBLE.

Quittenbaum GmbH – Combining years of experience with the latest in technology.

When you think of the idyllic town of Berchtesgaden, the first thing that comes to mind is likely not hi-tech firms, but there are a few of them, nestled in the Bavarian Alps. One of them is Quittenbaum, a small but well-established tool and stamping factory that has managed to build up an almost unrivalled reputation in a number of sectors for its complex miniature stamped parts.

When you arrive at Quittenbaum GmbH, you are given a welcome to match the unique location, and one that speaks to the positive atmosphere to be found throughout the company. Wherever you look, you will see a friendly face. "We have a very open business culture here – right from the beginning," explains CEO Günther Schöfegger. The beginning goes back to 1982, when master toolmaker Heinz Quittenbaum set up his own workshop in a garage. Much has changed since then, with the company celebrating its 40th anniversary this year with some 100 employees now under its roof.

More expansion to come

The firm certainly has plenty of reasons to celebrate at the moment. "Last year, we hit the 1.2 billion mark for the first time in terms of stamped parts produced, and that means that we're beginning to reach the limits of our location. If the approval process runs smoothly, we'll start next year on the construction of a second production site," says Schöfegger, who hails from Austria and who took over the reins of the company a few years ago. "The new production site will cover some 3,000 m² and be located opposite our external warehouse. "In the medium term, this is where we're planning to add to the 12 BRUDERER high-performance stamping presses that we currently have with another eight BRUDERER stamping presses. That will free up our production and also increase our fail-safe levels."

Keeping an eye on the whole process

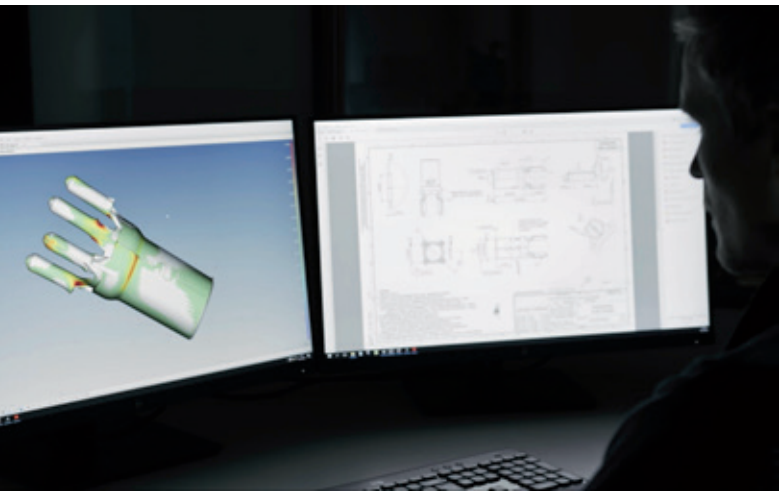
When Schöfegger talks of performance, he is primarily referring to quality and precision within the entire process chain – including that of the customer. "When we receive an order for a complex stamped part, we sit down at a table with the customer and discuss every step from the manufacturing through to the further processing. It's not much use to the customer if they get parts that are not 100% tailored to being processed for their own technology. We feel responsible for our stamped parts right up until they are fitted into the customer's machine. That gives them security and they really appreciate that."

Latest in technology paying off already

In addition to its highly-trained employees, Quittenbaum GmbH has prioritised the latest in technology when it comes to tool-making and production for a number of years now. As such, the company was one of the first in the sector to include computed tomography into measurement technology. "It's saved both us and our customers so much time," Schöfegger says. "Previously, data

had to be analysed page-by-page by us and then by our customers, then the two consolidated. There were times when that took weeks. Now we send the red-green matches created by the Zeiss Metrotom to our customers and they can see straight away how precisely the construction and the stamped part come together – across the board." Indeed, optical measurement processes always tend to hit their limits when it comes to free-form surfaces and rolled parts.

Quittenbaum GmbH's tool-manufacturing also involves ultra-modern machinery. The company uses the whole range of standard manufacturing processes to produce its high-precision tool components. "Other than for standard parts, we are capable of manufacturing our tools 100% in-house, which allows us a great deal of flexibility," Schöfegger continues. "We also try to give out as little of our production expertise as possible. The only way we can generate new expertise is by running an economically viable toolmaking business in Germany."



Pushing the limits of what is possible.

Last year, the first progressive tools with green laser technology and linear motors were put into use. "Small, complex laser-welded stamped parts are the future, and they are also our speciality," says Schöfegger. "We're getting a lot more enquiries for these from the automotive industry and other sectors."

Technology and rapidity are essential parts of operations and processes at Quittenbaum, and Martin Hillebrand, who is very much Schöfegger's right-hand man, is in charge of the digitalisation of the firm. "We began this back in 2015 by making the data from the production processes consistently available for us to use," he explains.

Innovation advantage via the digitalisation of every aspect of the value creation chain.

"The basic concept of digital production is for every value-creating element involved in a process, such as the machine, the tool, the product and the peripherals, to be smart enough to control themselves, be networked and to work with human beings. This is why we use digital twins. These can be fitted with a control algorithm tailored to the type and the technology and made 'smart'".

An example of this at Quittenbaum is how the tool can inform the corresponding employees independently of deviations between target and actual values during set-up, show the current status up to the next maintenance appointment, make the optimisation team aware if down times become longer or more frequent, send notes to the relevant employees when orders are received in the tool shop or stamping room and initiate release scenarios.

"Every employee can also put together their own tailored information on production quantities, maintenance intervals, downtimes, control charts, changes in documentation et cetera via their Intranet and get up-to-date in good time," Hillebrand adds. "With over 200 products that are constantly being manufactured on different BRUDERER stamping presses, this saves a lot of time at the end of the day and reduces the scope for error."

As Hillebrand sees it, the digitalisation of every aspect of the value creation chain has enabled Quittenbaum to create a significant innovation advantage, and over recent years, this has saved many an hour on the production side.

Small, complex laser-welded stamped parts are the future, and they are our speciality.

"Quittenbaum GmbH was one of the first companies in the sector to include computed tomography into measurement technology, saving both them and their customers so much time."

Quittenbaum customers also benefit from the high levels of automation via digital routing cards and process control. "If a customer asks about the status of the products they've ordered, we can inform them immediately of the current production status and how much longer the wait will be," says Schöfegger. "Customers often don't expect an answer that is as quick and detailed as the one we can give them."

Digitalisation as an opportunity

That the production department has come to count on BRUDERER high-performance stamping presses with a press force of between 280 and 510 KN is also tied in with the high levels of digitalisation at the company. As such, the average age of the stamping presses in use at Quittenbaum is around five years. "When the new production site is up and running, that average will be even lower," says Hillebrand proudly. "BRUDERER machines are well-designed mechanically and provide reliable production for decades – that's never been in any doubt. What's also important to us is the opportunities they open up through linking with peripheral devices, courtesy of the latest digital technologies," Schöfegger adds. "Without that, we wouldn't be able to keep pushing the boundaries of what is possible for our customers. This is exactly where we are at our best – going beyond the conventional limits and forging new paths. And we can only do that if the customers are ready to go down those paths with us." Plenty of Quittenbaum GmbH's regulars fit into the category and have trusted them for years now. It is a recipe for success that sees stamped and bent components, micro-stamped parts, press fit contacts, shieldings and round-shaped pins as well as rolled and laser-welded parts all manufactured in Schönau am Königssee.

Investing in the future

When asked about the future, Schöfeggger could not be clearer. "Times are far from easy at the moment, and you can add in exorbitant raw materials costs due to supply bottle-necks. Thankfully for us, these don't affect us quite as much due to our strategic business direction and product policy, because our value-creation stems first and foremost from our manufacturing expertise and less from the materials we use. And that is why we are going to continue to invest in our technology and our employees – that's the best thing that we can possibly do." The figures certainly back Schöfegger up in this regard. Quittenbaum has proven to be crisis-resistant, and even during these tough times has maintained its quest for innovation and optimisation. Customers know that their projects are always in good hands.

More below
www.quittenbaum-gmbh.de

SWISS PRECISION MEETS CZECH COMMITMENT.

Kontura Tools s.r.o. - Representing BRUDERER in the Czech Republic and Slovakia.

Dušan Volejník is the CEO of Kontura Tools s.r.o., one of the leading stamping technology companies in the Czech Republic and Slovakia. We sat down with him for a talk.

Stamper:
Mr. Volejník, tell us about your career to date and what brought you to stamping technology and to Kontura Tools.

Dušan Volejník:
I've always had a love and a curiosity for repairing things and an interest in how they work. I first came into contact with stamping and forming technology and precision cutting while I was studying engineering at the Brno Technical College of Mechanical Engineering, and I was really taken with these production processes. Swiss precision stamping technology was a very exclusive sector in Czechoslovakia at the time which made it even more interesting for me, and that's why I became a designer of stamping tools with my first employer, Moravan. That also gave me the idea of working more closely with Switzerland.
Kontura Tools s.r.o. was founded in Zlin in 2001, with the aim of creating a construction office for the building of stamping tools. In 2003, we became representatives of a German manufacturer of standard parts for stamping tools and injection moulds, and soon after that, we were in a position to advise customers about the construction and production of stamping tools and integrating them in stamping presses. A landmark in our company's history was establishing and representing BRUDERER in the Czech Republic and Slovakia.

Stamper:
What were the challenges that you faced at the beginning?

Dušan Volejník:
In the former Czechoslovakia, there was a strong tradition of manufacturing processing machines for metal cutting, but less so for stamping and forming. The stamping technology at the time was based on old standards, so the challenge at the outset was to demonstrate to customers exactly what they could do with a BRUDERER high-precision stamping press, as this technology could enable them to stamp in a more productive way and therefore generate more profits.

Stamper:
How would you describe the current status of the Eastern European market?

Dušan Volejník:
Thanks to the repeatable precision and reliability that we can provide, we have increasingly been able to establish ourselves in other areas of stamping and forming. There is high demand for solutions for electro-mobility, for example stamped parts for battery and cooling systems that are installed in vehicle batteries.

"Our aim is to fulfil our customers' demands in the best way possible, and even to exceed them where we can. New components for new innovative stamped parts – that's the challenge for us with BRUDERER as our precision stamping press manufacturer."

Slobodan Stevanovic, sales engineer of BRUDERER AG for Eastern and Central Europe, has played a significant part in our success thanks to his excellent expert knowledge and his understanding of our culture and mentality.

Stamper:
Your partnership with Lisovna AD is focused on building servo drives. How do you see your collaboration developing?

Dušan Volejník:
The production of electric engines is its own discipline and currently a very important one. Manufacturing rotor and stator stacks is currently enjoying a real boom in the Czech Republic, and it comes as no surprise that Lisovna AD recently implemented a new stamping line with a BSTA 1600-151 B2 that is used to produce parts for white goods and servo drives. I'm convinced that we have enormous potential for further growth in this area.

More below
www.konturatools.com


Dušan Volejník, CEO of Kontura Tools s.r.o.,

ON TRACK FOR EXPANSION.

LISOVNA AD s.r.o.

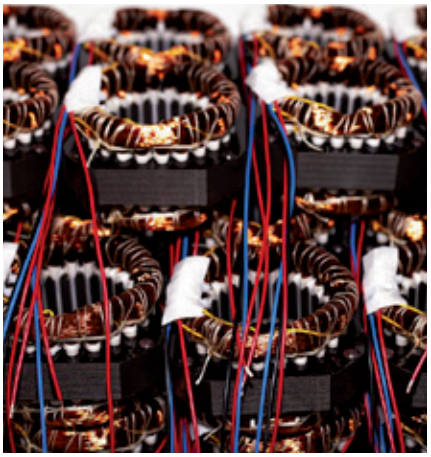
LISOVNA, at the eastern edge of the Czech Republic, has used the latest in BRUDERER stamping technology to establish itself as a specialist manufacturer of servo-drives.

Servo-drives have become an absolute must for any high-technology sector, and nowhere more so than the automotive industry. A company in the east of the Czech Republic has made a name for itself as a genuine specialist for complete stator stacks for servo-drives. Petr Dobrovolny, Head of stamping technology and Member of the Executive Board of LISOVNA AD s.r.o., based in Odry, takes up the story.

"It all began with manufacturing electric motors for washing machines back in 1995. When the market collapsed after the end of the state-controlled economy, we also needed to find a new direction. The burgeoning automotive industry in the country offered up fresh possibilities and we got together with a strategic partner and decided to focus on manufacturing stator stacks for servo-drives."

Experts in servo-drive prototypes and very small batches

Lisovna not only stamps the various stator and rotor laminations on the premises, but also has its own anchor coiler for manufacturing and assembling stator packets. And in every aspect of production, the company makes sure that it has the latest in technology. "For the coiling, we have an ultra-modern coil winding machine from Japanese company Nittoku, and when it comes to stamping, we tried a few things of our own before deciding that BRUDERER was the only solution," explains Libor Spáčil, project manager at Lisovna. "Our Swiss high-performance stamping press has a nominal force of 160 tonnes and processes strips up to 3 mm in thickness and 300 mm wide. It means that we can stamp not just more quickly and accurately with our existing tools, but also with a tool life that is up to three times longer on the BRUDERER press. We see our strengths in building prototypes and very small batches, and so we can also save a lot



of time when it comes to regular tool changes. That used to take around four hours but now we only need one with our BRUDERER BSTA 1600-151. The parameters entered into the controls and the various options provided by the BRUDERER servo feed make life so much easier for us. It's intuitive to use and that means that it takes less time for people to learn how it works. All of our machine operators are impressed by this stamping technology and have really come to trust it."

Large selection of in-house tools

Another strength of the company is its flexibility and development potential, with Lisovna having in-house tool-making with a variety of tools. Customer-specific demands can be implemented efficiently, with individual prototypes for servo-drives delivered within the space of a few weeks.

"Our construction department is always open to unusual solutions," says Spáčil. "We want to work together to make progress, which means that we're never satisfied with the first thing that comes to mind and want to make the most of our many years of experience combined with the latest in technology. In every task we take on, we focus on the ultimate goal."

The sense of commitment and passion can be felt throughout the company. Plans have been made and ambitious targets set, with Lisovna on a clear expansion path.

More below
www.lisovnaad.cz

(f.l.) Pavel Dobrovolny, Chief Executive Officer, Petr Dobrovolny, Member of the Executive Board, Libor Spacil, Project Leader.

NEW FROM OLD.

BRUDERER expands its subsidiary in Dortmund.

After a comprehensive planning and renovation period, BRUDERER GmbH in Dortmund has now settled into its new assembly facilities for reconditioning used machinery as well as an enlarged administrative area. The new premises were unveiled in September at a two-day event entitled: "BRUDERER – New from old".

The Swiss manufacturer has been associated in Germany with high-performance stamping presses for over 60 years. With the founding of a subsidiary in Dortmund in the early 1970s, the company established a firm foothold in the important German market. Since then, both the original factory in Frasnacht, on the shores of Lake Constance in Switzerland, and the subsidiary in Dortmund have developed for the future. "When it comes to stamping technology, Germany is one of the most important markets in the world," Achim Kuhli, CEO of BRUDERER GmbH in Dortmund, explains. "As such our customers have invested heavily in stamping technology over recent decades – and that of course means in BRUDERER products as well.

We've observed increased interest in and positive acceptance of the reconditioning business, also in view of sustainabi-

In the ultra-modern new assembly facilities with cleaning and painting booths, used BRUDERER machines are brought back up to speed using original parts and solutions.

lity and work safety. In order to provide our customers with support as a reliable partner, we've had to upgrade and expand on a regular basis."

"Our new building stretches over some 1,000 m² with room to work on up to 40 machines a year."

Growth means more room required

The previous construction project goes back to 2013. By the end of 2019, space had become tight once again, so more expansion was planned in 2020. "Our new building stretches over some 1,000 m² with room to work on around 40 machines a year. The administrative building was also expanded," says Kuhli. "Having additional capacity means that we are well set up for the future. Going forward, we will not only be able to considerably increase our throughput but also be able to react more flexibly to particular requirements from customers." In the ultra-modern new assembly facilities, which feature cleaning and painting booths, used BRUDERER machines will be brought back up to speed using original parts and solutions. This includes both mechanical updates and improvements, e.g. a conversion from a mechanical feed to a servo-feed, and also controlling-based modernisations. "We offer our customers the expertise and the performance that only the manufacturer can provide, making their old machine as good as new and able to keep pace with today's manufacturing-based demands," Kuhli says.

High product and service quality levels guaranteed

The focus in Dortmund is primarily on overhauling and upgrading used machines of up to 50 tonnes of stamping force. With the unique quality and modularity of BRUDERER high-performance stamping presses, even the oldest of machines can be made fit for purpose again and also retrofitted to respond to modern requirements. "Service has always played a key role at BRUDERER," Kuhli adds. "Our experienced and committed team of around 50 employees supports and looks after hundreds of customers in Germany and adjacent countries."

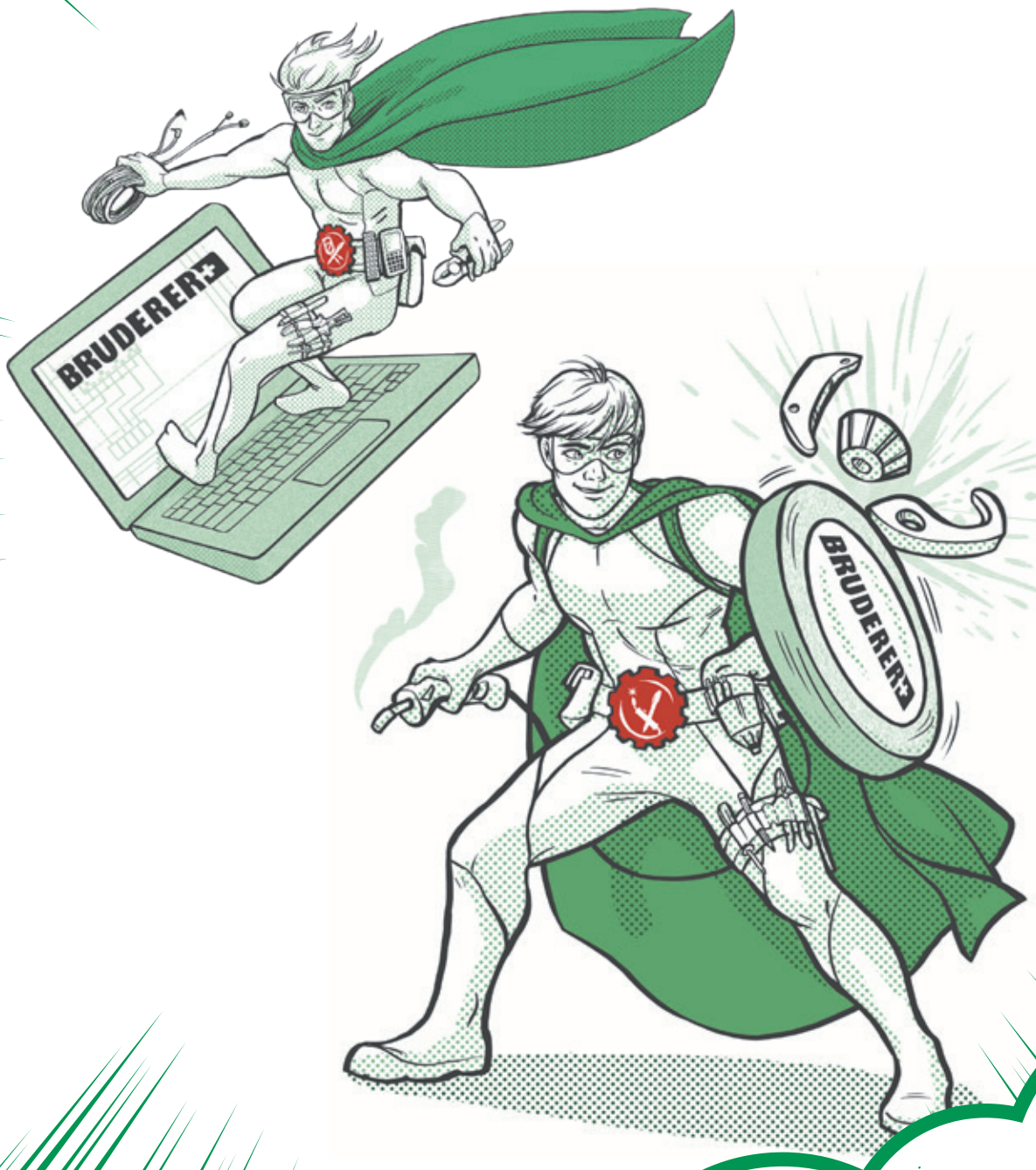
Celebration for customers and employees

The official inauguration of the new facilities was held on 22 September. After a visit of the premises, guests then got to celebrate the event at the BVB Dortmund stadium. BRUDERER GmbH in Dortmund has enjoyed a partnership with the football club dating back over many years, with BRUDERER located almost right next to the 'Westfalenstadion'. "The new working facilities mean that we are well-equipped to face the tasks ahead," Kuhli concludes. "I would like to take this opportunity to sincerely thank the company owners Adrian and Reto Bruderer as well as all of the employees, without whom the success of Bruderer GmbH would not have been possible. I'd also like to thank the construction companies involved in the work and their employees, for successfully completing the building project on time and on budget."

(l-to-r) Adrian Bruderer, Achim Kuhli and Reto Bruderer.

HIGH-LEVEL TRAINING.

TALENT-SMITHS IN THURGAU.



When it comes to vocational training, Switzerland is fortunate to benefit from an education system unlike any other in the world. While youngsters previously had to choose their career paths as soon as they finished school, nowadays, with the dual education system, they can combine apprenticeships with further studies. One of the main advantages of this is the high standard of training received, with BRUDERER being a shining example.

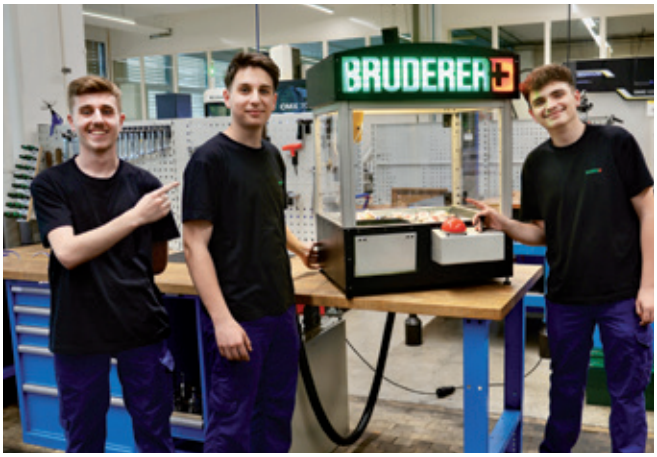
At BRUDERER and indeed around the country, apprentices are given solid basic training and can also attend a vocational college within the scope of the dual education system. "The fact is, not every young person knows where they want to go next once they finish school," as Roman Stocker, who is in charge of vocational training at BRUDERER, points out. "This is why we sit down with our trainees right at the start to work out what their respective skills are and how to encourage those in a targeted way. As such, they can be safe in the knowledge that they will get on the right career path at the end of the day, and that's a win-win situation because it also means that we then have committed employees who enjoy their jobs and look forward to coming to work in the morning."

Wide range of training possibilities

Top-class training in a particular profession means that apprentices then have a world of possibilities open to them in terms of higher levels of learning. Advanced vocational training plus examinations can give them a Swiss federal certification or diploma. Professional colleges award HF diplomas, with trainees then able to continue to technical colleges and Universities of Applied Sciences (FH) or even the Swiss Federal Institute of Technology (ETH). Those with lofty ambitions can study for a bachelor's or master's degree or even a doctorate via this alternative education route.

The variety of trades on offer at BRUDERER is extensive, with people leaving school currently able to choose between seven different training positions. These range from mechanical engineers to mechanical technicians, assembly specialists, assembly operators, design engineers, logistic technicians all the way through to apparatus engineers.

An even broader range is set to be offered in the future, in an active measure to combat the skills shortage. All apprenticeships at BRUDERER are characterised by the extremely high levels of training that are dispensed. Trainees at BRUDERER are integrated into the value creation chain of our high-performances stamping presses from the outset.



Stronger together – the benefits of team work for cross-profession projects.

A solid training basis for the professionals of tomorrow.

It should come as no surprise therefore that plenty of BRUDERER apprentices have gone on to enjoy glittering careers. A mechanical engineer who trained with BRUDERER is now an international pilot, while others have successfully completed their engineering studies or found employment as process or production specialists. Successful careers like these can primarily be attributed to the in-depth practical experience that they managed to acquire whilst learning their trades, combined of course with a passion for their work.

Ultra-modern training workshop

Our trainee workshop contains ultra-modern production machinery, ranging from a new surface grinding machine to a five-axis CNC milling machine. All of our trainees are aware right from the start that they are not only producing practice parts – they're making components that will be fitted to our high-performance stamping presses and delivered to our customers. We want our apprentices to be trained as much as possible in real everyday situations. Demands like this mean that each individual has a greater sense of responsibility and knows the value of genuine team-work.

Regular visits from schools

The modern machinery and in-depth nature of the training means that apprentices from other firms also find their way to BRUDERER. Inter-company courses are held at the BRUDERER training workshop for certain trades, with apprentices from other reputable local businesses coming to learn the necessary skills. Word has also been getting out among the schools around the canton, with regular class visits to BRUDERER arranged to give pupils an insight into the various trades that they could learn. "It obviously makes a lot more sense than a slide-show presentation in a classroom," Stocker adds. "When they come here, I welcome the pupils at the start of their visit and give them a brief history of BRUDERER, then our trainees take them in groups around the company and show them what they are learning and manufacturing. This has worked really well to date and on more than one occasion, we've received applications or requests for work experience after tours like this." There are currently 27 apprentices on the books at BRUDERER, with six of them completing their training this year.

"After an initial intensive training period, all apprentices are then assigned productive manufacturing tasks."

"Top-level training and an enjoyable atmosphere are the basis of our success."

Further training

The training does not stop once apprenticeships are completed at BRUDERER. The company has proved itself to be a highly attractive employer and is committed to helping any of its employees who are looking for further training options in their chosen field. "If it serves a work-related purpose, BRUDERER will always listen to suggestions when it comes to further and additional training for employees, and we're yet to really burst anyone's bubble in this respect," says Stocker. The follow-on effect of this is that some of the most revolutionary developments in high-performance stamping technology over recent decades have emerged from BRUDERER's workshops. Top-level training and an enjoyable atmosphere – which is something that should not be underestimated – have come to form the basis of the company's success. "We see ourselves as one big family, with everyone on the same level, from the apprentices right up to the owners," Stocker concludes.

More below
www.bruderer.com/en/company/jobs-career-vocational-training/vocational-training/

Plant and equipment engineers in action.

Taking the fast lane to their professional future.

BRINGING ADDED VALUE TO STAMPING.

Probably the first English-language textbook of stamping technology.

Stamping is one of the oldest forms of metal processing and has constantly developed ever since it was first introduced in the 19th century. In close collaboration with BRUDERER, Professor Matthias Kolbe, author of the 'Stanztechnik' ('Stamping technology') reference book, has been working not only on an update of that but also on an English version of the chapter on high-performance stamping. We spoke both to Professor Kolbe and to Miriam Geisser, head of marketing at BRUDERER.

Stamper
Professor Kolbe, you lecture in forming and stamping technology as well as high-speed forming technology processes at the West Saxon University of Applied Sciences in Zwickau. How did you also come to write the renowned specialist work Stamping technology?

Prof. Dr.-Ing. Kolbe
I never dreamt of one day having my name on the cover of a book. The work was first begun over 50 years ago by senior engineering lecturer Erwin Semlinger. It was the first textbook of its kind and gave an insight into the basics of manufacturing technologies such as cutting, bending and deep-drawing amongst others, which were all related to what was known in the trade as stamping.

It is a practical reference book for trainees and students of production technology in the automotive and engineering sectors. It's a recommended text for further training within the industry and one that is used to provide fresh ideas for management in terms of potential new methods of production.

The processes have of course never ceased to develop over the intervening decades, which is why the book was expanded on many years later by Professor Waldemar Hellwig from the University of Constance in a reworked fifth version. This also provided a link to BRUDERER, as Professor Hellwig had previously worked with the long-established Swiss company. Professor Tschätsch then got me involved in 2009 to take on the legacy, initially in conjunction with Prof. Hellwig and later on my own but with BRUDERER. Today we are up to the recently published 13th edition.

Stamper
The title was changed for the latest edition. Why was that?

Prof. Dr.-Ing. Kolbe
This new edition of the textbook was significantly reworked, and that led to the title of the book changing as well. A lot of the updates have to do with high-performance and stamping and bending technology. Other parts of the content were also set out differently with a number of colour illustrations added. And in any case, the old title of 'Spanlose Fertigung Stanzen' ('Non-cutting production stamping') had always seemed a little awkward to me.

Stamper
What was the importance of working with BRUDERER on the latest edition?

Prof. Dr.-Ing. Kolbe
It was huge. What you have to appreciate here is that BRUDERER's particular drive technology for high-performance stamping is unique on the

market. There are plenty of books on forming technology but none of them which describe the areas of precision cutting and high-performance stamping technology in as much detail as this work. All of the other more general processes are of course mentioned in the book as well.

Stamper
In addition to the reworked edition of 'Stanztechnik' in German, an English version is coming out at the same time with the title 'Stamping Practice'. Tell us a little bit more about that.

Prof. Dr.-Ing. Kolbe
In the field of stamping technology, there is almost nothing in the way of specialist publications in English, which is why it was a priority for both myself and BRUDERER to finally make the subject of high-performance stamping available to an international audience. Converting the entire book into English would have been too extensive to begin with, so we decided to take the first step with the chapter on high-performance stamping. The 'Stamping Practice' textbook provides an overview of the basics of stamping technology, with advice gleaned from experience on the designing of tools and explanations of the BRUDERER high-performance stamping presses.

Stamper
Have you received any feedback yet on the two new publications?

Miriam Geisser
Every time we visit a customer, we take the opportunity to give them copies of the books as a gift. The feedback has been overwhelming, as both theory as well as decades of experience are combined in one volume, along with plenty of practical examples. And that is what the BRUDERER philosophy is all about. We want to leverage our expertise to support customers on their path to success.

Stamper
That brings us round to the subject of training at BRUDERER. Are these two books an illustration of the company's deep-seated commitment to this particular aspect?

Miriam Geisser
Absolutely. It's a real focus of ours to continue to have the best-trained and most creative engineers on the market available to us. Anyone who is well versed in the high-performance stamping technology sector and who works in this field will come across the BRUDERER high-performance precision stamping presses, and as such, the reference books are not just facilitating knowledge transfer, they are also a way of building BRUDERER brand awareness.

Stamper
Via the high levels of precision and the attention to quality that BRUDERER demonstrates?

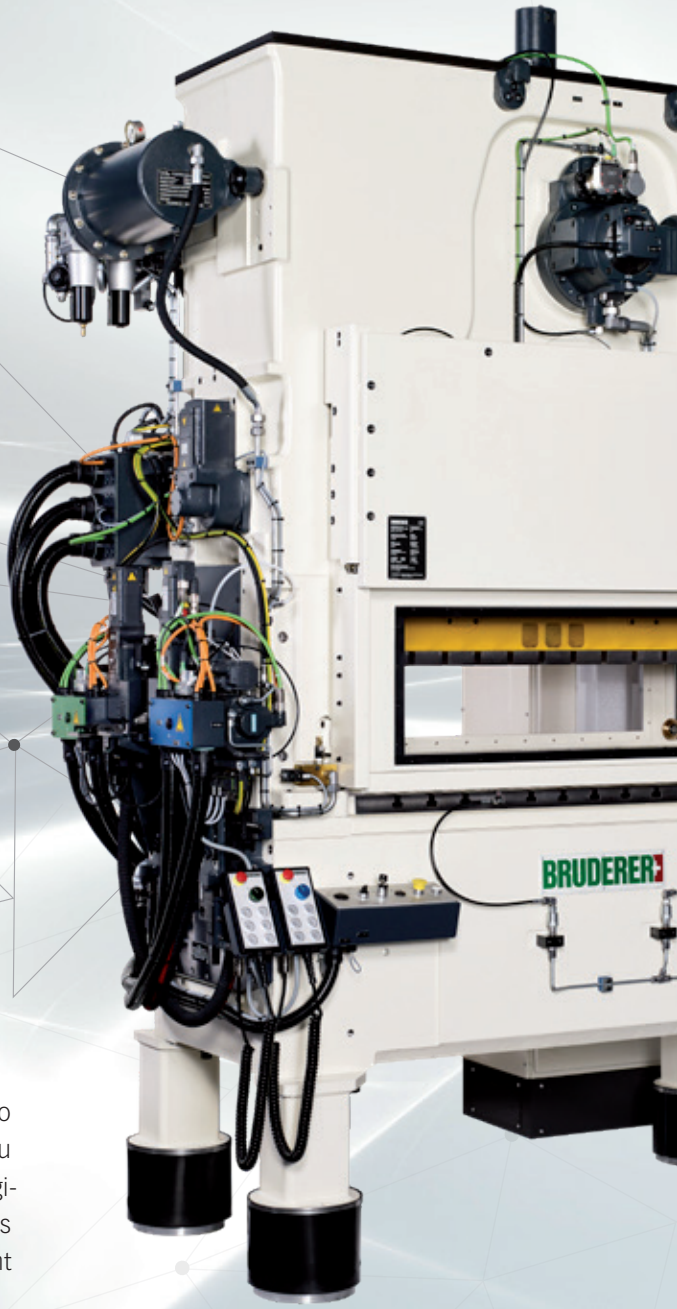
Miriam Geisser
Exactly! It extends through all the departments. Top-class training leads to innovative new products, and high standards of quality lead to results that are capable of meeting demanding expectations. And that's the best form of publicity that you can have.

(l-to-r) Reto Bruderer and Prof. Kolbe.

Your *Perfect* **Match**

Precision

The main reasons for the long life and consistently high precision of the BSTA high-performance stamping presses are the unique lever system, which distributes the load acting on the ram, the ram guiding concept and many other features.
Thanks to this technology, stamping tools can operate with the smallest of tolerances and minimum wear, resulting in a very long tool service life.



Productivity

The BSTA range has a nominal force of 180 to 2500 kN and a stroke speed of 100 to 2300 spm. You increase your productivity and quality by using original BRUDERER feed units, controls and peripherals as well as stamping technology made by our competent partners.

for more:

Performance

The innovative BRUDERER technology results in low-maintenance operation and the highest process reliability for your products. Together with our expertise and cooperation with established partners, this is what makes our stamping presses so reliable.

Partnership

You don't just buy a BRUDERER stamping press, you buy into the complete know-how of the BRUDERER family – world-wide! This includes an extensive service network and the expertise of our employees and our long-term business partners.
In order to help our customers find the perfect setup for their stamping press, we offer stamping trials and training courses tailored to meet your individual needs.
A true win-win partnership.

BRUDERER

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